(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



- 1 (1217) (1) (1217) (1 (1217) (1217) (1217) (1217) (1217) (1217) (1217) (1217) (1217) (1217) (1217) (1217)

(43) International Publication Date 3 June 2004 (03.06.2004)

PCT

(10) International Publication Number WO 2004/046733 A1

(51) International Patent Classification⁷: G01N 33/94, 33/53, C07K 16/42

(21) International Application Number:

PCT/FI2003/000875

(22) International Filing Date:

17 November 2003 (17.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

20022048

18 November 2002 (18.11.2002) F

(71) Applicant (for all designated States except US): VAL-TION TEKNILLINEN TUTKIMUSKESKUS [FI/FI]; Vuorimiehentie 5, FIN-02150 Espoo (FI).

(72) Inventors; and

- (75) Inventors/Applicants (for US only): PULLI, Timo [FI/FI]; Myllypellonpolku 3 B 28, FIN-00650 Helsinki (FI). HÖYHTYÄ, Matti [FI/FI]; Caloniuksenkatu 9 C 54, FIN-00100 Helsinki (FI). TAKKINEN, Kristiina [FI/FI]; Haltilantie 12 as 1, FIN-02200 Espoo (FI). SÖDERLUND, Hans [FI/FI]; Salonkitie 19, FIN-02940 Espoo (FI).
- (74) Agent: KOLSTER OY AB; Iso Roobertinkatu 23, P.O. Box 148, FIN-00121 Helsinki (FI).
- (81) Designated States (national): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, EG, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,

KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT (utility model), PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
- of inventorship (Rule 4.17(iv)) for US only

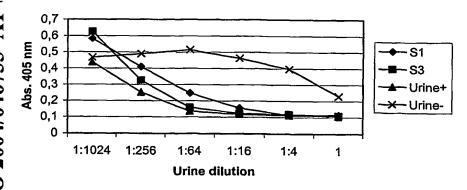
Published:

with international search report

[Continued on next page]

(54) Title: NON-COMPETITIVE IMMUNOASSAY FOR SMALL ANALYTES

Competitive ELISA of M1



(57) Abstract: The invention is directed to a non-competitive immunoassay for small analytes, wherein the analyte is reacted with two binding partners. The first binding partner binds to the analyte to form a complex between the first binding partner and the analyte, and the second binding partner binds to the complex formed by the first binding partner and the analyte. The resulting complex formed between the analyte and the binding partners is detected. The binding partners are proteins, such as antibodies including antibody fragments. The

invention further relates to reagent pairs and test kits useful in the assays, as well as to the use of the reagent pairs and to a process for their preparation. Novel reagents and means for their preparation are also provided.

WO 2004/046733 A1

WO 2004/046733 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.